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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,363	11/17/2003	Hiroyuki Senda	60188-701	1877

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EXAMINER

RIZK, SAMIR WADIE

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 08/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,363	Applicant(s) SENDA ET AL.	
	Examiner Sam Rizk	Art Unit 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/17/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTIONS

- Claims 1-14 have been submitted for examination
- Claims 1,2,4 and 6 have been rejected
- Claims 3,5 and 7 are objected to
- Claims 8-14 are allowed

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 11/244,187. Although the conflicting claims are not identical they are not patentably distinct from each other because the claim of the instant application anticipate the claim of application 11/244,187.

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"A Later patent claim is not patentably distinct from an earlier patent claim if the Later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior ad patents), In re Bern, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (Affirming a holding of obviousness- type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001).

Examiner notes that claim 1 in the application under consideration teaches every limitation in claim 1 of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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2. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohyama et al. US patent no. 6,802,040 (Hereinafter Ohyama).
3. In regard to claim 1, Ohyama teaches:
 - A method for decoding a received word made of one of a Reed-Solomon code and an extended Reed-Solomon code having a certain number of error corrections as input data, the decoding method comprising:
 - a first error correction step of performing error correction for the input data using an error locator polynomial and an error evaluator polynomial derived based on the input data and syndromes of the number of error corrections, and setting the result of error correction as first corrected data;(Note: FIG. 3, reference sign (9) and col. 4, line 62) in Ohyama)
 - a syndrome computation step of computing syndromes of the first corrected data; and of computing syndromes of the first(Note: FIG. 3, reference sign (12) and FIG. 4 and col. 5, lines (15-63) in Ohyama)
- a second error correction step of performing error correction for the first corrected data based on the syndromes computed in the syndrome computation step, and setting the result of error correction as second corrected data.
(Note: FIG. 3, reference sign (10) in Ohyama)

4. In regard to claim 2, Ohyama teaches:

- The decoding method of Claim 1, further comprising'
- an error number estimation step of estimating the number of errors generated in the input data based on the syndromes of the input data; and

(Note: col. 2, lines (2&3) in Ohyama)

- an error number computation step of computing the number of errors using the error locator polynomial and the error evaluator polynomial and the number of error derived based on the syndromes of the input data corrections, wherein

(Note: col. 2, step (4) in Ohyama)

- in the first error correction step, the error correction is performed for the input data using the number of errors estimated in the error number estimation step and the number of errors computed in the error number computation step.

(Note: col. 2, step (4) in Ohyama)

5. In regard to claim 4, Ohyama teaches:

- The decoding method of Claim 2, wherein in the second error correction step, the error correction is performed for the first corrected data based on the syndromes of the first corrected data, the estimated number of errors, and the computed number of errors.

(Note: FIG. 3, reference sign (10) in Ohyama)

Allowable Subject Matter

6. Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

7. The prior Art of record and in particular Ohyama teaches all the limitations in claim 2.

However, the prior art do not teach, suggest, or otherwise render obvious:

- The decoding method of Claim 2, wherein the first error correction step comprises;
- an error number determination step of determining whether a first determination condition that the estimated number of errors is equal to the computed number of errors and that both the estimated number of errors and the computed number of errors are equal to or smaller than the number of error corrections is true;
- an error correction step of performing the error correction for the input data to obtain error corrected data, and obtaining error corrected data on an extended component based on the error corrected data;
- a step of setting the error corrected data obtained in the error correction step as the first corrected data when it is determined in the error number determination step that the first determination condition is

true and it is determined that one of the syndromes of the input data is not zero; and

- a step of setting the input data as the first corrected data when it is determined in the error number determination step that the first determination condition is false and it is determined that all the syndromes of the input data are zero.

8. Claims 5 and 7 depend from claim 3.
9. Claim 6 has similar language as in claim 3.
10. Claims 8-14 are allowed.

The following is an examiner's statement of reasons for allowance:

11. In regard to claim 8, the prior Art of record and in particular Ohyama do not teach, suggest, or otherwise render obvious:
 - the error correction section outputs the error corrected data as the first corrected data when the number of errors estimated by the error number equal to the number of errors computed by the error number computation section, both the number of errors estimated by the error number estimation section and the number of errors computed by the error number computation section are equal to or less than the number of error corrections, and the first flag signal indicates that the input data has an estimation section is error.
 - the error correction section outputs the input data as the first corrected data when the number of errors estimated by the error number

estimation section is not equal to the number of errors computed by the error number computation section, one of the number of errors estimated by the error number estimation section and the number of errors computed by the error number computation section is greater than the number of error corrections, or the first flag signal indicates that the input data has no error.

As disclosed in claim 8.

12. Claims 9-14 depend from claim 8.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Veksler, US patent no. 5373511 teaches method for decoding a Reed-Solomon encoded signal with inner code.
- Litwin, Jr. et al. US patent no. 7020826 teaches intra-decoder component block messaging.
- Weng, et al. US patent no. 5978956 teaches five-error correction system.
- Katayama, et al. US patent no. 6487691 teaches Reed-Solomon decoder.
- Fukuoka, et al US patent no. 6122766 teaches Reed-Solomon decoder having a three-stage pipeline structure

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- Yoshida, et al. US patent no. 6658605 teaches multiple coding method and apparatus, multiple decoding method and information transmission system.
- Meyer, US patent no. 5737343 teaches circuit for localizing errors in Reed-Solomon decoders.
- Williamson, US patent no. 5905740 teaches apparatus and method for error correction for determining at most four error locations of RS encoded data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

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7/24/06

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